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THE MONIST

THE BIOLOGICAL EVOLUTION OF LANGUAGE.

[Mr. O. F. Cook had the rare opportunity of watching a people primitive enough not to be conscious of the grammar of their own language, and the present article contains an observation on the subject. One of the most important points, which comes out very clearly in his statements, is a condemnation of the theory that a conscious notion of the abstract should exist in man's mind when he begins to use abstract ideas, and this is I would say a corollary of the theory propounded by Ludwig Noire who tersely said that "man thinks because he speaks, not *vice versa,* he does not speak because he thinks." Noiré's theory of the origin of language may be considered as a new epoch in the history of philology, and the gist of his theory has been published in English form in extracts from his works under the title *On the Origin of Language* (Open Court Publishing Co.). Noiré's ideas have not become sufficiently known in this country, and judging from the authorities which Mr. Cook quotes, the opposite view which would insist that man speaks because he thinks, that he forms ideas because he has become conscious of the power of abstraction, is still regarded in many quarters as the orthodox view. It almost seems as if Mr. Cook were not familiar with Noiré's theory of language, but if that be so, it only corroborates the correctness of the natural and spontaneous growth of language in man's mind. He proves from the facts that he had the rare opportunity of observing that languages are not (to use an Aristotelian term) θέσει, i. e., by construction, but φύσει. i. e., by natural growth. They develop not otherwise than, and according to the same laws as, plants grow, flowers bloom, and fruits ripen. The regularity of grammatical rules and the constructions of the syntax are as much a result of the natural laws of nature as are the forms of crystals, of plants, and of animal bodies.—ED.]

SOME years ago a party of Americans engaged in a scientific exploration of Liberia made an attempt at learning the language of the Golah people, one of the numerous small tribes of the valley of St. Paul's River. By those who have become acquainted with that part of Africa the Golahs are not considered remarkable either for stupidity or for brightness of intellect; their language is thought to be easier of acquisition than, for example, that of the Kroo people of the coast, but somewhat more difficult than that of the Vey tribe, with which the Golah tongue is, perhaps, most nearly related. The task of learning either to talk or to "hear" Golah proved, however, to be beset with many obstacles, and although our opportunities of observation and instruction were excellent, they proved to be altogether too brief and intermittent for more than a mere introduction to the musical conversation of our sable friends. The effort resulted, however, in many suggestive incidents, and it was possible to establish one fact which seems to have a general bearing upon so trite a subject as the development of speech.

The point in current theories which our Golah experience affects can probably be illustrated best by reference to two recent papers by eminent anthropologists and philologists. In his "Philology; or the Science of Activities Designed for Expression,"[1] Major Powell, as indicated by the title, places the greatest possible emphasis on the factor of intention and design, and interprets not only oral and formal language as deliberately contrived, but the same theory is extended to explain the origin and application of acts classified as "emotional language," laughing, smiling, sobbing, screaming, frowning, etc.

"Natural expression must be distinguished from artificial expression or language, for natural expression is not designed to convey concepts, while expressions which are designed to convey concepts constitute language. Hence language may be defined as artificial expression of concepts in judgments by words in propositions. . . . *Sobbing as an expression of despair.* Sobbing is caused by sudden or spasmodic inspiration and is accomplished by the facial signs of grief through the action of the muscles of grief. Habit has made it instinctive, but its true nature as an artificial sign is plainly exhibited when sobbing is simulated."

In a more recent address[2] Prof. Boaz draws equally definite inferences regarding the intellectual powers required in the construction of language.

"A developed language with grammatical categories presupposes the ability of expressing abstract relations, and since every known language has grammatical structure, we must assume that the faculty of forming abstract ideas is a common property of man.... We must not forget that the abstract idea of a number must be present among these people because, without it, no method of counting is possible."

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[1] *American Anthropologist,* N. S., 603-637, 1900.

[2] *Science,* February 22, 1901, XIII., 283.

"We also find that nouns are classified in a great many ways in different languages......It is at once clear that every classification of this kind involves the formation of an abstract idea."

The above opinions may represent somewhat extreme views, and yet they are but expressions of the theory which underlies the philologist's respect for the logical powers of the peoples who are supposed to have constructed the languages in which syntactic relations of words are highly developed and intricately adjusted.

If we had had predecessors in the study of Golah, and had thus been enabled to approach the language through the medium of a formulated grammar, the point of our original investigation might easily have been missed, though the same fact has been encountered undoubtedly by hundreds of pioneer students of unwritten tongues. Contrary, however, to the impressions commonly reported by missionaries and philologists, our respect for Golah linguistic ingenuity, instead of continuing to increase, was soon rudely shattered by the discovery that, with the exception of a few nouns and verbs, the wisest men of the tribe had no suspicion of the meaning of the words of their own language, much less a comprehension, however slight, of its grammar or syntax. Of such a sentence as, Where is the ax? (*"Cul bu-leah,"* "Where ax-at?"), we could ascertain without delay that *bu* means *ax,* but when we attempted to learn which sounds conveyed particular parts of the remainder of the idea it soon became apparent that the Golahs were more ignorant than ourselves, for by comparing a few sentences we were soon able to inform them, much to their surprise and satisfaction. They were unable to understand the grammatical structure of their language, much less to contrive and elaborate it, and they were in total ignorance, not only of the nature and existence of such a structure, but of any separate existence and definite meaning for a large proportion of their linguistic elements or word-symbols.

To infer deliberate design from the existence of complex adjustments is not a new method of argument, nor one in especial favor at the present time. It is indeed wonderful that utterly illiterate savages should possess intricately complicated linguistic systems which require years of expert philological study before they can be adequately comprehended and described. The philologist knows that an even greater period would be needed to invent, elaborate and popularise a new language, and bows in spirit before the nameless, primitive originators of Sanskrit, Greek, or Arabic; but the biologist has less confidence in this theory of prehistoric inventors, because of his acquaintance with other systems of intricate organic adjustments which have developed by gradual processes and through natural, continuously active causes.

The degeneration of languages is another venerable theory, related, evidently, to that of the fall of man, though we are now learning that languages, like men, "fell up." It begins to be appreciated that grammatical regularity is not necessarily a sign of age and gradually attained perfection, but may indicate just the contrary. Arabic, for example, one of the most regular and grammatically logical systems of human speech, is now thought to have been reduced to writing within a comparatively short period after its formation. Languages, like organisms, can develop and degenerate; indeed, the same language may be undergoing both processes at the same time.

The language of the Golahs is in essential respects like those of their numerous neighbors, though differing from Vey probably as much as English from German, and completely different from some of the linguistic types of the eight or ten tribes which could be reached in a day's journey. When one knows the people it seems obvious that these languages are to be interpreted as the result of the evolutionary subdivision and integration of others like themselves, and not as products of conscious effort on the part of individuals, ancient or modern.

Among the plants and animals cross-breeding and the resulting combination of characters can take place only between related and similar organisms, but in building languages the most heterogeneous constitutents may be united.[1] When the child of three years produces from his own subconsciousness such words as "knewed," "broked," and "oak-corn," he is but furnishing an example of the constructive tendency which in primitive society would incorporate and bring to the grammatical regularity of one language, word-symbols of diverse origin, and this is done without any abstract ideas or intentions of forming or arranging words in accordance with the categories and classifications to be recognized by the philologist's subsequent study of the resulting compound type of speech. That Homer should have used a word only in the plural, while the singular became current later, has seemed very remarkable to those who have thought of language as deliberately constructed from roots[2] and inflectional particles, but to borrow a word in the plural and afterward make a singualr for it is quite as possible in practice as the opposite course.[3]

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[1] The natives of West Africa did not divide time into weeks, and when, for example, the Kroo tribe of the coast of Liberia adopted the system from the slave-traders, they secured also their word *weekay,* while among the Golahs of the interior missionary influence may be perceived in the fact that the word for week is *Sunday*. By using English words with the grammatical constructions and vocal inflections of his own language the native makes a literal translation or "jargon." Having had no equivalent for our "to be" he refuses to adopt it, and uses "live" instead. The result is such expressions as, "No rice live here," "Man live for come" (is coming), or "Man live for die" (is dead). Such gibberish, with intonations which render even the most familiar words quite unintelligible to the newly arrived traveller, is the chief medium of communication in West Africa, and if that quarter of the world were left to itself would soon crystallise into a distinct language. Similarly, the Japanese language is said to have exactly the grammatical structure of the Corean, but with an entirely distinct vocabulary, indicating that Coreans who colonised Japan talked at first a jargon to the natives and then adopted it among themselves. In numerous other instances, such as the Polynesians, Malays, and Egyptians, conquest and colonisation resulted in keeping two more or less distinct languages in use together, one for the royal family, nobility, upper class, medicine-men, or priests, and another for the common people. Among the predaceous Caribs of the West Indies the language of the women is said to have remained distinct from that of the men, and the same is also true to a notable extent in Japan.

[2] The non-existence of roots as origins of words has been ably argued by Dr. A. L. Kroeber, *American Anthropologist,* N. S., III., 334, 1901.

[3] Dictionaries recognise English plurals for memorandum and index, but do not, as yet, admit that date is an English singular for data. The natives of Guam mistook the Spanish plural *santos* for a singular, and proceeded to

As the existence of numerals is held to imply the possession of the abstract idea of number, so Professor Boaz might reason with even greater logical propriety that euphonic changes imply an abstract idea of euphony, in accordance with which the Golahs have introduced certain modifications of what the philologist would take to be the normal or original structure of their language. And yet after acquaintance with the mental habits of the Golahs the theory that they or any of them were ever separately conscious of the nature, purpose, or methods of speech, or of any design or intention of modifying or improving their language, seems about as probable as that the brooks of their country run down hill by deliberation. Euphony is, indeed, a phonetic gravitation,[1] and when the Golah man says *cum* or *culum* instead of *cul mu* (whither you) it is because his tongue falls more easily to it. The apparent design is simply the result of motion on the line of least resistance, an evolution rather than an involution, a physical quite as much as a mental process. It is true that not all the elements and principles of linguistic structure and change are as obviously related to the physical and automatic faculties, but if we keep close to the facts of the primitive mind it becomes evident that among the Golahs, as elsewhere, there are many indications that language is a product of the subconscious rather than of the rational phase of the human intellect, and that the designs of its structure and the abstractions of its categories exist only *in posse* until they are discovered and formulated by the philologist. Indeed, it is little less than obvious that language is as much an instinct as an art, and that with the race as with the individual it was a preliminary, rather than result, of the development of abstract ideas.

The linguistic opportunities of primitive man of the Golah and neighboring varieties exceed those of their civilized brethren in that their waking hours are spent in an almost incessant exercise of the "activities of expression." The Golah man talks mostly from habit rather than from purpose or intention, and is limited by no formal

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form a plural *mañantos* in conformity to their own "laws" of etymology and euphony, which Mr. W. E. Safford has recently formulated and published for the first time. *American Anthropologist,* N. S., V., 303, 1903.

[1] The Samoans have an expression for euphony, the literal translation of which is "lifting it easily." See Turner's *Samoa,* p. 223.

standards of grammar or requirements of reason, as we understand it. He finds no difficulty in metrical improvisation by the hour, and is ready on the shortest notice to deliver an impassioned oration with rhetorical balance and rhythmical periods impressive from the sound alone, all the more when one understands nothing of the childish subject-matter. Natural orators, masters of language, shall we say? Rather does the language master the savage and deceive his undeveloped judgment.

On form, as the concomitant or the counterfeit of emotion, depends much of the charm and efficiency of language, and most languages have never been used as vehicles of deliberately clarified perceptions and logically elaborated ideas; they have never really attained to the status of activities *designed* for expression. As well might we hold that primitive man would not have eaten had he not entertained an abstract idea of nutrition as that he contrived language by the assistance of abstractions. Beyond the symbolic languages of mathematics and other sciences, Volapük and its imitations are probably the only tongues thus elaborated.

"Inspiration" and "divine afflatus" are commonly invoked to explain the beauties of religious and poetical literature of Mediterranean and European peoples; outside of these it is also recognised that the form rather than the substance has been the chief element of permanence and influence for the masterpieces of many languages, as, for example, the Arabic and the Chinese. The language itself becomes, as it were, a fetish, and the perfection realised in the form becomes also an unquestioned quality of the ideas expressed. The mind is charmed and convinced by the formal perfections of language largely because it is utterly unconscious of having contrived them, much as the school-child is sure that he has the right answer when the example "comes out even." Much of the poetry and oratory of former times is now dismissed as useless word-making, or "empty verbiage," but even in our advanced civilisation the most important truths and finest sentiments secure appreciation only as they are expressed in words able to command our instinctive respect for excellence of speech.

There is a sense, indeed, in which language might be called a function of the human intellect, but in a far more important respect it appears that the intellect is itself a product of man's power of expression. The possession of simple languages by many of the lower animals is an indication that man did not need to invent speech, and there has undoubtedly been mutual increase in scope and perfection of organs and faculties, which is so obviously true also of the human hand. Neither is there any indication that man ever had an intention or a motive for the diversification of languages, which even in primitive times was recognized as a misfortune and explained as the curse of a jealous deity. Philology affords the amplest proofs that languages have become what they are by a process of universal evolution with but little direct influence of artificial selection, and with endless divergences and intergraftings which hopelessly obscure their origins and relationship. Between languages, as such, natural selection also effects relatively small and slow changes, the selection is racial, national, or social, and important linguistic movements have been incidental to the history of great political, commercial, intellectual, or religious empires.

Custom, not reason, has ever been the lawgiver of language. Intellectual progress, including even the advancement of science itself, is obviously conditioned on the tardy improvement of the arts of expression, and these are still controlled by usage, tradition and the æsthetic sense through which they have always been elaborated. The ascendency of intellect is in some respects inimical to the evolution of language; civilised man has contrived to write and print his words that they may not be forgotten or changed,[1] but live words continue to vary in form and sense even after lexicographers have attempted to embalm them. The extent of man's designed interference in language is well illustrated by the continued failure of his spelling reformers during a period which has added to the English language and brought into general use hundreds of new words and expressions in spite of the most strenuous objections of the purists.

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[1] The careful memorising and frequent recital of genealogies and poems, as among the Polynesians and the ancient Greeks, may be even more effective than printed literature in preventing modification of language. In spite of the immense distances and the multiplicity of small islands, one language is still spoken throughout the Polynesian islands, from Hawaii to Easter Island and New Zealand. Indeed, these three apices of the triangle, according to Mr. W. E. Safford, have the language in greater purity and similarity than Samoa, Tonga, and other equatorial archipelagoes. The eastward movement of dark-skinned, curl-haired Melanesians seems to have extended to Tahiti and even to the Marquesas group, subsequent to the colonisation of the Pacific islands by the original Polynesian stock.

Linguistic forms are still dictated, as they were originally elaborated, not by a deliberate or conscious exercise of judgment or inventive ability, but by the æsthetic or proportional sense which is the common base of man's progress in all constructive and artistic activities, the same sentiment or feeling which was long since personified as the "genius of language," in apparent recognition of its subliminal and involuntary nature. Expression has an infinite variety of purposes, but these are momentary and incidental; they affect details of words and phrases, but they do not furnish either the power or the pattern for weaving the fabric of language. It is only at an advanced stage of intellectual progress that tasks of expression transcend the capabilities of existing language, and result in designed additions to the vocabulary. But even such novelties consist mostly of individual words, and do not affect the structure of language. Many new ideas are, however, conveyed by old words, both idea and word having been gradually adapted in use. Such adaptation is a concomitant of evolution, but not of design, and we may invoke again the analogy of organic evolution where some of the higher animals have, as it were, interfered in details of their own evolution, although the general process is quite without their ken and was only recently approached by human comprehension.

Direct evidence of the subliminal character of the linguistic powers of the mind had long been available in the numerous instances where languages long since forgotten or never consciously acquired are brought to the surface and used with fluency in abnormal mental states. To this class of phenomena may be added the even more pertinent fact occasionally afforded to students of foreign languages by dreams in which they are able to carry through without hesitation or error, extended and difficult conversations quite impossible to the waking intellect. Moreover, the studies of Flournoy would seem to carry the matter a step farther by indicating that the subconscious mind may have not only an apparently unlimited sensitiveness in acquiring and retaining languages, but that in an abnormal state the talent natural to the child and to the savage may become hypertrophied, and may elaborate on an extensive scale new symbols of speech.

This view of the origin and nature of language affords, in addition, an obvious and adequate explanation of the practical inefficiency of all methods of instruction which attempt to impart languages through the medium of the rational powers. In a much truer sense than Goethe's oft-quoted denial of the existence of the species in nature which "knows only the individual," might it be said that, as with the Golahs, language knows only the sentence. Etymology and syntax represent but the analyses and generalisations of the conscious intellect from phenomena to which it stands in no causal relation, and to expect that a knowledge of the generalisation can affect or even facilitate the transfer and use of linguistic symbols and forms is to bid defiance to all pertinent psychology. Fluency in the use of language has always been, and is likely to remain, a matter of arbitrary memory and individual skill, just as correctness of grammatical construction and literary style are questions of taste and practice. The learning of language is one department of education where there is no danger or disadvantage in the use of the arbitrary memory, providing the effort be expended on the speech itself, instead of upon generalisations regarding its formal structure. Language was neither invented nor developed by the methods of comparative philology, and these are a demonstrated failure as means of imparting it.

Since the establishment of the doctrine of organic descent many other series of gradual changes have been termed "evolutions," though often having but slight analogy with biological evolution. To call something an "evolution" in this literary or philosophical sense may mean merely that there has been a continuous sequence of events, instead of disconnected periods and independent causes. Language, however, is one of the characters acquired by the human animal in virtue of the same properties and influences to which his more tangible bodily perfections and diversities are due. And as mental progress has been more rapid and extensive than bodily change, the greatest diversity among men lies in language and in the consequent intellectual and social arts, habits, and instincts. With language, too, it is even more apparent than with physical characters that divergence is not caused by environment, but appears whenever isolation permits separate manifestations of the ever-present tendency to change.[1] It is also more obvious with language, but no more true, that the rapidity of evolutionary progress does not depend upon segregation, but is greatly accelerated by the contact and combination of characters. The Norman invasion changed the English language and people much more than centuries of isolation would have done. And when languages and other characters are thus brought into synthesis it is apparent that their differences are not always useful, but much more often useless, and that the perpetuation of a new character or variation does not depend so much upon its fitness with reference to an external environment as upon its fitting into the existing structure, organic or linguistic.

The development of language has, accordingly, an interest wider than that of the science of comparative philology, since it is not an artificial contrivance of the mind but represents the natural, spontaneous and unconscious growth of a human talent. The evolution of language is not a figure of speech or a subject apart, but a genuine, familiar and instructive instance of biological evolution. The power of expression made possible the attainment of general and abstract ideas, but the philologist's classification of linguistic symbols and forms affords no evidence that primitive man designed language, or that abstractions have influenced its evolution.

The ancient theory that languages were created along with the peoples who speak them had the merit of logical consistency, a virtue not apparent in the modern opinion that the diverse characteristics of the peoples are due to evolution, while their languages are looked upon as the artificial result of deliberate constructive effort.

WASHINGTON, D. C. O. F. COOK.

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[1] "Kinetic Evolution in Man," *Science*, N. S., XV., 927. June 13, 1902.